Montana Board of Oil and Gas Conservation
Environmental Assessment

Proposed Action: Approve Drilling Permit (Form 22)
Operator: Continental Resources, Inc.
Well Name/Number: Hanna 3-30H
Location: NE NW Section 30 T25N R53E
County: Richland **, MT; Field (or Wildcat)** W/C (Bakken FM Horizontal)

Air Quality

(possible concerns)
Long drilling time: No, 30 to 40 days drilling time.
Unusually deep drilling (high horsepower rig): Yes, triple derrick, 1000 HP drilling rig to drill a single lateral Bakken Formation horizontal well, 19,274'MD/9,468'TVD.
Possible H2S gas production: Slight chance of H2S.
In/near Class I air quality area: No not in a class I air quality area.
Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211.

Mitigation:
X Air quality permit (AQB review)
__ Gas plants/pipelines available for sour gas
__ Special equipment/procedures requirements
__ Other:_____

Comments: No special concerns – using triple rig to drill a single lateral Bakken Formation horizontal well, 19,274'MD/9,468'TVD.

Water Quality

(possible concerns)
Salt/oil based mud: Yes, freshwater and freshwater mud system on surface hole and oil based saltwater mud system on mainhole. Brine water to drill horizontal lateral.
High water table: No high water table anticipated.
Surface drainage leads to live water: No, location is about 4/25 of a mile to the east of an unnamed ephemeral tributary to Horse Creek. Another unnamed ephemeral drainage to Horse Creek is located 3/10 of a mile to the south of location. Horse Creek is a tributary of the North Fork Redwater Creek, this location is about 6 miles from the confluence of Horse Creek and North Fork Redwater Creek.
Water well contamination: No, closest water well is about 5/8 of a mile to the southeast from this location, 2/5 of a mile to the southwest, 3/5 of a mile to the south, 8 wells about a mile to the southwest. Depths of these wells range from 20' to 170' . This well will drill surface hole with freshwater to 1420'. Will set steel surface casing and cement to surface from 1420'
Porous/permeable soils: No, silty sand clay soils.
Class I stream drainage: No Class I stream drainages in this area.

Mitigation:
X Lined reserve pit
X Adequate surface casing
__ Berms/dykes, re-routed drainage
__ Closed mud system
__ Off-site disposal of solids/liquids (in approved facility)
__ Other: _____

Comments: 1420' of surface casing cemented to surface adequate to protect freshwater zones. Surface casing hole will be drilled with freshwater and steel surface casing will be set and cemented from 1420' to protect groundwater.

Soils/Vegetation/Land Use

(possible concerns)
Steam crossings: No, stream crossings anticipated.
High erosion potential: Yes, moderate cut, up to 20.8' and moderate fill, up to 19.5', required.
Loss of soil productivity : No, location will be restored after drilling, if nonproductive. If productive unused portion of drillsite will be reclaimed.
Unusually large wellsite: No, 450'X400' location size required.
Damage to improvements: Slight, surface is a grass field.
Conflict with existing land use/values: Slight

Mitigation
__ Avoid improvements (topographic tolerance)
__ Exception location requested
_X_ Stockpile topsoil
__ Stream Crossing Permit (other agency review)
_X_ Reclaim unused part of wellsite if productive
__ Special construction methods to enhance reclamation
X Other: Requires DEQ General Permit for Storm Water Discharge Associated with Construction Activity, under ARM 17.30.1102(28).

Comments: Access will be off of an existing county road #316 and existing well access road. Will build an access road off of the existing well access road of about 3,117.3' into this location. A lined reserve pit will be used to hold drill cuttings and excess drilling fluids. Oil based invert drilling fluids will be recycled after the well in finished drilling. Completion fluids and any free liquids in the reserve pit will be trucked to a Class II Disposal. Cuttings will be allowed to dry in the reserve pit, after drying the cuttings will be buried in the lined reserve pit. No special concerns.

Health Hazards/Noise

(possible concerns)
Proximity to public facilities/residences: Closest residence is about 1 mile to the southwest from this location.
Possibility of H2S: Slight H2S.
Size of rig/length of drilling time: Triple drilling rig 30 to 40 days drilling time.

Mitigation:
_X_ Proper BOP equipment
__ Topographic sound barriers
__ H2S contingency and/or evacuation plan
__ Special equipment/procedures requirements
__ Other:_____

Comments: Adequate surface casing and operational BOP should mitigate any problems. No concerns.

Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified.
Proximity to recreation sites: None identified.
Creation of new access to wildlife habitat: No
Conflict with game range/refuge management: No game range/refuge in the area.
Threatened or endangered Species: Listed threatened or endangered Species in Richland County, Piping Plover, Interior Lease Tern, Whooping Crane and Pallid Sturgeon. Candidate species listed are the Greater Sage Grouse and Sprague's Pipit. Two (2) species are listed as potential species of concern: Brook Stickleback, and Plains Minnow.

Mitigation:
__ Avoidance (topographic tolerance/exception)
__ Other agency review (DFWP, federal agencies, DSL)
__ Screening/fencing of pits, drillsite
__ Other: _____

Comments: Location not near to live water. Surface is private grass land. No concerns.

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Historical/Cultural/Paleontological

(possible concerns)
Proximity to known sites None identified

Mitigation
__ avoidance (topographic tolerance, location exception)
__ other agency review (SHPO, DSL, federal agencies)
__ Other:_____

Comments: On private surface land.

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Social/Economic

(possible concerns)
__ Substantial effect on tax base
__ Create demand for new governmental services
__ Population increase or relocation

Comments: Existing producing spacing unit. This is a development well within an existing producing spacing units. No concerns

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Remarks or Special Concerns for this site

Well is a 19,274'MD/9,468'TVD Bakken horizontal well in Richland County

Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected. Some short term impacts will occur.

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I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/John Gizicki _____
(title:) Compliance Specialist _____
Date: March 26, 2014 _____

Other Persons Contacted:

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Montana Bureau of Mines and Geology, GWIC website
(Name and Agency)
Richland County water wells _____
(subject discussed)
March 26, 2014 _____
(date)

US Fish and Wildlife, Region 6 website
(Name and Agency)
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA COUNTIES, Richland County
(subject discussed)

March 26, 2014 _____
(date)

Montana Natural Heritage Program Website
(Name and Agency)
Heritage State Rank= S4
(subject discussed)

March 26, 2014 _____
(date)

If location was inspected before permit approval:
Inspection date: _____
Inspector: _____
Others present during inspection: _____